

Adjusting the Program to the Child

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How can the teacher best meet—and most wisely use—the wide range of differences in abilities, interests and development represented by the children under his guidance? This article reviews briefly various attempts by schools to solve this constant dilemma. It also illustrates a possible approach to solution in at least one area of instruction.

MISS JULIAN has been assigned as teacher for the fourth grade. She finds in her class Ada, age 7; Bill, age 8; Carl, age 9; Dot, age 10; and Edith, age 11. There are a couple of other children of seven, like Ada; there are half a dozen eight-year-olds like Bill; there are nine or ten aged nine like Carl; half a dozen ten-year-olds like Dot, and a couple of eleven like Edith; but we'll simplify matters by thinking of Ada, Bill, Carl, Dot and Edith whose names run conveniently in alphabetical order according to their ages. These happen to be Mental Ages.

Now Miss Julian has been told, rather vaguely, that she should adapt her work to individual differences. But her course of study is all planned for fourth grade; her textbooks are written for fourth grade children; and she is ex-

pected to get all the children ready for fifth grade by the end of the year. So she makes all her assignments and general explanations to fit Carl and the other nine-year-olds, and paces her work to their level. To "adapt to individual differences" she gives some special help, as far as her time will permit, to Ada and Bill and the other seven- and eight-year-old youngsters, and she tries to give some "enriching" additional assignments to Dot and Edith and their ilk to keep them busy.

But by the end of the year Ada and Bill are far from having reached fifth grade standard in any subject—they and Miss Julian have become increasingly discouraged as the year rolled by; for all the teacher's efforts, and the children's, the seven- and eight-year-old boys and girls simply could not do the work and

read the books planned for nine-year-olds. Dot, and especially Edith, on the other hand, had found the fourth grade work so easy that in spite of all the attempts to "enrich" it for them, their abilities were not challenged, they had become bored, and had developed into discipline problems.

Shall Miss Julian promote all of them to fifth grade, let Ada and Bill flounder more than ever, let Dot and Edith become even more bored and unchallenged? Or shall she make Ada and Bill repeat fourth grade, for which Ada is not yet ready, and where Bill will grind through all the material he half-learned, giving both a further feeling of failure; and shall she recommend that Dot and Edith skip fifth grade, going on to sixth without any of the fifth-grade learnings?

The Dilemma of Teachers

This is the dilemma of teachers everywhere. Miss Julian's room is not the exception; it is typical. In any classroom of thirty or more children an intelligence test will almost always show a range of at least four years in the mental ages of the children. A standardized test in arithmetic will show a range of at least four years in the arithmetic age of the children. A reading test is more likely to show a range of five years; so is a spelling test. As long as we ignore these facts and act on the false assumption that they do not exist, we shall have this dilemma, and neither universal promotion nor a regression to flunking some children and having others skip grades will resolve it.

If a man who habitually drinks too heavily in the evening tells his doctor

that he has such a headache every morning that he cannot do his work effectively, and that if he stays home to sleep it off he will lose his job, the doctor will tell him that if he insists on continuing to drink to excess every evening there is no way out of his dilemma. It is equally absurd for us in the schools to insist on continuing to ignore the four-year range in maturity of the children in any grade and expect to resolve our problem by any policy of promotion or non-promotion.

Attempts Toward Solution

Our system of grading schools was developed when we assumed that all children could learn the same things at the same chronological age if they tried hard enough; failure to learn was morally reprehensible and was dealt with by the hickory stick. Those who still didn't learn, after repeated failures and repetition of grades, left school and went to work. Toward the end of the last century the hickory stick and dunce cap had been abolished in most American schools, but low marks and failures still carried with them a moral stigma that hurt as much as the switch. The large number of failures and grade-repetitions continued, and provoked discussion and a number of gestures toward reform, but almost no real solutions to the problem were discovered.

As early as 1889, however, Preston Search in Pueblo, Colorado, really faced the problem squarely and made it possible for each child to learn at his own

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natural rate in each subject, with no failures, grade-repetitions or grade skipping. But Search was ahead of his times. Textbooks were not so written as to make self-instruction possible; people were not convinced that any such radical departure was necessary—we had no intelligence tests or achievement tests in those days. The tremendous amount of work Search inspired his teachers to do in order to make individual progress of pupils possible, continued only as long as Search's dynamic personality aroused the necessary enthusiasm.

But by 1912, achievement tests were making people recognize that the differences in children were much greater than had been realized; and intelligence tests were coming over the horizon. It was then that Frederic Burk in the San Francisco State Normal School, following up an informal experiment by a member of his faculty, Mary Ward, started a movement to make textbooks self-instructive and enable children, systematically, to progress according to their ability. Burk's experiments, and the statistical results, caused nation-wide interest. By 1919 a member of his staff was invited to become superintendent of schools in Winnetka, a suburb of Chicago, with the deliberate purpose of introducing Burk's ideas and adapting them to public school conditions.

Self-Instructive Materials

Under his guidance the teachers of Winnetka worked prodigiously in preparing self-instructive text material, diagnostic tests, and administrative techniques whereby each child's work could be fitted to his maturity and

readiness. The schools became world-famous, the self-instructive materials gave rise to the "workbooks" now so very common over the country, and textbooks in general became far more self-instructive than before. In the mid-twenties educators everywhere were talking about the so-called "Winnetka Plan," and along with it the quite different "Dalton Plan," developed by Helen Parkhurst after repeated conferences with Burk, and on the basis of her earlier Montessori experience. The common element between the early phases of the Dalton plan and the work in Winnetka was that both provided for individual progression. Other experiments had been begun by this time, in Chicago, in London, and many other places. The National Society for the Study of Education devoted the Twenty-Fourth Yearbook to a description and evaluation of such experiments. It really began to look as if schools might begin to fit their work to the children.

Project Method

But the Project Method just then began to seize the imagination of educators and Kilpatrick said there should be no fixed curriculum. People said (with some justice) that the individual work in Winnetka and elsewhere divorced the mechanics of learning from motivating social experience. Schools heaved a sigh of relief—they didn't have to reorganize their classes, their textbooks, their administration. They sank back to their former programs, with sometimes a veneer of "projects" or "centers of interests" or "activities," as they were successively called. Most of these were about as far as they could

be from what Kilpatrick had envisaged. For example, in one city, the elementary supervisor decreed that during the month of April all fourth grades should study fish. Arithmetic problems must deal with fish, reading was about fish, spelling words had to do with fish and how they were caught and marketed, geography discovered where different kinds of fish came from, and so on. This sounds fishy, but I saw it with my own eyes.

Not all efforts at activities programs were so stupidly far-fetched—I hope few were. But practically all ignored individual differences in the maturity and readiness of the children about as completely as these had been ignored before; and most continued to give the grade assignments in arithmetic, spelling, reading, etc., on a class basis, aimed at the “average” child.

“Ability Groups”

Some schools, however, threw a sop to Cerberus. They reverted to the experiments of the 1890's and organized classes in “ability groups.” Some, like Detroit and Los Angeles, had whole classes of X, Y or Z students, representing, supposedly, three levels of mental ability. The “slow learners” were given watered down assignments, the “fast learners” were given “enriched curricula”; but if the children were about nine years old chronologically, they were all given fourth grade work. The problem was not in the least solved—achievement tests given at the end of the year, in any subject, showed almost as wide a range as before, and an overlap between “ability groups” that was much greater than the differences in their median achievement. The prob-

lem of promotion or non-promotion remained.

Then Los Angeles had a bright idea. Half the children who had failing marks at the end of certain grades were promoted in spite of their apparent failure; the other half repeated the grade. Both halves were tested at the end of the next year and it was found that the ones promoted learned more than did the repeaters. The emotional results of discouraging failure and boring repetition of assignments inhibited growth in learning, while the encouragement and stimulus of going on with their class improved the learning of the ones promoted.

Universal Promotions

On the basis of such experience and reasoning, the schools of New York City, among many others, decreed universal promotions. Then teachers began to tear their hair. Children were further apart than ever in their ability to learn the work of the grade to which they were assigned. And they still persisted—and persist—in treating all the children in the room as if they were nearly at the same level. To be sure, teachers are usually forced into dividing a room into three groups, doing some “remedial work” with the slowest group and giving the fastest group some padding under the euphemism of “enrichment”; but the major trend of the assignments, the textbooks and the tests is on *one* grade level, not on four.

The difficulty with any attempt at grouping is that each child has his own characteristic profile of abilities and maturities. A child of second grade arithmetic ability may have fourth grade reading ability; another may have

sixth grade reading ability and third grade spelling ability—and so on with all the subjects and children. And a child doesn't stay put—he may take a spurt in learning in some one phase of the curriculum and block in another.

Grouping by Mental Age

Perhaps mental ages should be the basis of grouping? That's been tried, too, and it doesn't work, for two reasons: First, the child with a high IQ may be physically, emotionally and socially much less mature than a slower-developing child of the same mental age who is several years older chronologically. Conversely, the twelve-year-old child with a mental age of nine, doesn't fit at all in a class of nine-year-olds, interlarded with bright eight-year-olds and a few precocious seven-year-olds.

In the second place, a mental age is an average of differing functions, as a comparison of the profiles of the test results of any two children of the same mental and chronological age quickly reveals. To illustrate, in highly oversimplified form, let us look at two children of the same age (ten) taking a Stanford Binet test, and let us confine ourselves to just two test items. One item is the vocabulary test, consisting, you will remember, of a graded series of words, running from very simple, easy ones to words like "homunculus" and "limpet." A certain number of right definitions gives a child a score of eight years, a larger number gives a score of twelve years. The other item we choose to consider is the Ball and Field test. Showing the path one would take to find a lost ball in the field, if the path is not efficient but indicates that the child has grasped the idea, scores the child on

the eight-year level; while a really efficient plan for covering the field, like a close spiral or concentric circles, gives him a score of twelve years. Now Robert and Helen are both chronologically ten years old. Helen passes the vocabulary test at the twelve-year-old level, Robert at the eight-year level. On the Ball and Field test, on the other hand, Robert passes at the twelve-year level and Helen at the eight-year level. Averaging each child's score, each has passed a test at the eight-year level, each has passed one at the twelve level; so both have average scores of 10. Mental age ten; chronological age ten; IQ 100 for each: they're exactly alike! Only they aren't; there's four years' difference between them in each of the two functions measured.

Of course the scores are not worked out just like that; but the result is the same on a more complicated series of test items. Any child has a gap of about four years between his basal age—the level on which he passes *every* test item, and the maximum level on which he passes one test item. And the intermediate test items missed differ from child to child with the same age and IQ.

Grouping for Individual Mastery

No grouping based on an averaging of the children's mental levels and their achievement levels in various school subjects can, in the nature of things, result in real equality among the children of the group in regard to each of the various kinds of maturity.

Ability grouping is a misnomer and is no solution to our problem. Flunking some children and double promoting others is no solution. Uni-

versal promotions, by themselves, enlarge the range of differences.

There is only one solution: *Face facts.*

The facts are that children differ widely in their rate of maturing, and that each child's rate of maturing in some functions differs from that same child's rate of maturing in others. No child does good work and maintains an interest in learning unless the work challenges him to use his abilities, and unless he can achieve success somewhat proportionate to his effort.

In the light of these facts it is obvious that the school program must be adjusted to each child's maturity, recognizing a range, in regard to any one aspect of school work, of at least four years in any classroom. This adjustment must be made *insofar as we expect mastery from each child.*

That last clause is very important. Kilpatrick to the contrary notwithstanding, there *are* some fixed aspects to the curriculum—things that every literate and functioning member of our society really has to know or know how to do. Seven and eight were 15 in Russia before the Revolution and after the Revolution, and are on this side of the Iron Curtain as well—and were even when written differently by the old Romans. And anyone in our society will be really handicapped if he thinks that the sum is 13. There have been, and always will be, for all practical purposes, six nines in 54, and it is awkward if one thinks there are seven. During the lifetime of the children now in school it is highly likely that "believe" will be spelled with the "i" in front of the "e," and the reversal, while not fatal, is liable to be embar-

assing. For a long time to come, in all probability, people in our culture will end sentences with a period and begin them with a capital. And so on.

These are not the most important parts of education and need not consume an inordinate part of a child's time. They should certainly not be learned without seeing their functional usefulness. But they do need to be learned, and some of them require repetitive practice, which used to be called drill.

There are many other aspects of the curriculum which do not require common mastery. No two of us have identical knowledge of history, geography and science, for example. No two of us have read all the same books. No two of us will write identical letters or essays on the same subject, even though we may spell and punctuate alike.

In school we have many goals. We are concerned with giving every child such knowledge and habits as he needs for health and safety; we want to give every child mental health—a chance at self-expression, a feeling of security, some degree of social integration, and the adjustment to life and his fellows that these imply; there are various social attitudes of responsibility for the common welfare that we want to stimulate, and certain perspectives which we want to open up. We want to give the children, too, practice in democratic living—in respect for differences among themselves, whether of dress, customs, ancestry or ideas, and in working cooperatively with their fellows toward common goals that they really want to reach. The list is much longer. But in very few of these things are we seeking identity of response among children.

What Is the Common Core?

Where we do not expect identity of response, children may be grouped in accordance with approximate social maturity, or common interests, or special needs, or even, without harm to most of them, chronological age. They can have both common and individual experiences and exposures, and each will get what he is ready for out of them. They won't be marked or graded in these things—there is no single standard of achievement. Our job is to provide a stimulating, interesting environment, a wide variety of experiences suitable to children of the range of maturity with which we are dealing. Many experiences are interesting and useful over a rather wide range, as is evident from the range of ages of children enjoying the same television show or baseball game. With wise guidance we can help each child to get as much value as *he* can from these exposures and activities.

But there is still a little hard core of subject matter (I know the word is out of style) that *every* child who is not a moron (and even a high grade moron) needs, sooner or later, to master. It is that core of skills that must be adjusted to the ability, the maturity, the readiness, of each individual child—not without real functional meaning to him, not without motivation, but at the psychological moment when he can learn, with achievement proportionate to effort.

It's not as hard as it seems. It has been done successfully over and over and under a variety of circumstances. The steps are simple:

First, identify this core, specifically.

In reading, this core consists of being able to read books easily and fluently, to read aloud in such a way as to communicate easily with one's hearers, to be able to get information one is seeking from the printed word. In spelling, it is ability to spell the commonest words, to have a desire to spell all words conventionally, and to be able to look up words one is not sure about. In language and grammar it is knowing how to speak and write without violating the forms that are universally current among educated people—"We wasn't going nowhere," for example, is a form of speech which, while perfectly intelligible, excludes the user from acceptance as an educated person.

And in arithmetic there are the basic number facts, the four processes applied to numbers commonly used in problems such as everyone meets in daily living, the use of those few simple fractions that everyone uses, in the processes where they are used in almost everyone's life; simple measures in common use—and so on through a very limited number of items.

This list can be whittled down by omitting what everyone will learn without school practice—I've seen children drilled in the difference between larger and smaller, taller and shorter, heavier and lighter. But I have never seen even an illiterate who did not learn these distinctions just by living in our society. Reading the calendar, telling time, naming the months of the year—there is a whole string of topics on which we need not concentrate, because in a life of any variety of experience, children will inevitably pick them up.

And it can be whittled down at the top by omitting all things that are not

really functional in the lives of most people: computing the area of a circle, the division of one fraction by another, especially if the divisor is larger than the dividend; compound interest; double discount.

I do not mean that arithmetic—or reading or spelling or language—should be confined to the small common core. An understanding of the significance and possibilities of arithmetic, far beyond this core, should be stimulated and helped wherever the response of the child warrants it; spelling should go far beyond a minimum list of words; language should be mainly creative expression of various kinds; reading should not only grow in depth of understanding, but should flower into real appreciation of literature and poetry. But these things need not be—cannot be—measured with precision; they need not be the same for all; they are outside the hard core but are the more vital part of education.

It is only the hard core—the universally needed and used skills—that must be individualized in the sense of seeing that each child achieves mastery. This mastery can only be achieved by a child when his own individual maturity in respect to any aspect of it makes it possible for his achievement to match his efforts. And we only want such ultimate mastery where uniform achievement is necessary—the same answer to 6×9 , the same spelling of a word, the same punctuation at the end of a question.

And even these things should not, I repeat, be taught in isolation from meaning and use.

So much for the first step—the identification of the core. The second step

is to see when a child is ready for any particular topic. This is not difficult. A spelling scale will indicate the level of difficulty of words that a child is ready to spell. A reading test will show the grade level on which a child can read (or, earlier, a reading readiness test will give some indication as to whether he is ready to learn to read). His own original stories will show what punctuation and capitalization he is ready to use. And in arithmetic we have pretty good evidence as to the usual mental age and the definitely needed foundations a child needs before going from one stage to the next.

When Is the Child Ready?

The third step is to provide a little time in each day for individual work and to give each child the work for which he as an individual is ready. His many creative and social activities should have given him a background of understanding as to the functional need for what he is learning, and should give him ample opportunities for applying it. Beyond this, the inherent desire to learn, and the success in accomplishment will serve as potent motivation. When these things are insufficient, ad hoc projects can readily be devised to show a child or a small, informal group the use of what is being learned.

At this point materials have to be at hand for the individual work, especially in arithmetic. Modern textbooks and workbooks often can supply this material, if the non-functional and the unnecessary parts are omitted. Provision for self correction of daily work is good for the child and saves the teacher

unnecessary labor. Diagnostic tests at frequent intervals can give some indication as to whether or not real learning is taking place.

I have gone into all this in considerable detail in Part Three of my *Living Philosophy of Education*, and cannot develop the techniques here. Furthermore, many of you may devise better ones. All I want to point out is that there are techniques that make it possible to individualize these common essential skills in a classroom of the usual size, or even larger—McDade did it with fifty in a class in Chicago as did Jessie McKinder in London, not that such large classes are ever defensible.

Is it harder to individualize this part of the curriculum than to teach it the traditional way? Let me ask: Is it harder to do the possible than the impossible? It is impossible for any teacher, treating a class of children as if they were all ready for the same lesson at the same time, to get any uniformity of results. His efforts to do so frustrate both teacher and child—and at the end of the year he is faced with the unsolved problem of promotion.

A Flexible Program

But granted that this modicum of the curriculum, where we want to build a uniform base, is individualized, what happens to Miss Julian whose class we discussed at the beginning? Let us assume that Ada, Bill, Carl, Dot and Edith are of somewhere near the same chronological age, and get along reasonably well socially in spite of their spread in mental ages—not an impossible assumption. Now let Miss Julian plan her program in a way that will give these children many activities and

experiences in which they can share and from which each can derive some, but not the same, benefit. Then let her know that she is expected to see just what aspect of the common core of arithmetic each of the five is ready for, and that she is not expected to get them all through fourth grade.

She gives Ada some very simple work in the meaning of the smaller numbers and what happens when they are combined. She gives Bill a reasonably self-instructive textbook and perhaps a workbook in which he learns what happens to numbers when the same ones are added together repeatedly, and how this can be shortened by multiplication; and, a little later, when he knows the meaning of the products, she lets him practice on the multiplication facts with products less than twenty until he really knows them. And so on with the rest of the children. Each is given work that fits his own arithmetic maturity. Often, for this one subject, she can group several children together temporarily, while they are mastering a topic. During the arithmetic period, she will be down among the children, helping, encouraging, showing them how to get what they are trying to learn. Each child will be progressing at his own rate. No child will feel pushed beyond his ability, or held back.

At another period, all children may be reading—but not in the same books. The room library will have books marked as to their level of difficulty and each child will know the level on which he can read with satisfaction. At spelling time, each child will be working on his own appropriate list, with a partner to dictate words to him.

But most of the day the children will

be working together—doing creative work with handicrafts, colors or writing. Their discussions, their research, their committees, the teacher's talks or stories or demonstrations, the group singing, the creative dramatics, the excursions—all these will be social and stimulating opportunities to learn. Arithmetic will inevitably come in—those who can solve the harder problems that come up in connection with a discussion or a project will do so; the simpler problems will be solved by the ones on the earlier steps of the ladder. Spelling can't help coming in whenever there is anything to write; reading is equally inevitable.

The common core remains, it is true, temporarily isolated for the sake of individual mastery—just as one who plays in an orchestra gets off by himself and practices, temporarily out of context, a

difficult run until he masters it. Such temporary isolation of a part of a learning process is natural, universal and necessary. The harm comes when most work is so isolated and when the isolation is neither preceded nor followed by integration in a larger whole.

But to return to Miss Julian: At the end of the year her children have all progressed, in varying degrees, toward mastery of appropriate parts of the common skills. All have had a rich year of experience in many fields. If the children have got along fairly well together and can work and play as a team, she has no hesitancy about letting them continue their group experiences together the next year, knowing that her successor will carry each child on from where he left off in that fraction of the curriculum where common mastery is necessary.

Teaching the Individual Adolescent

ERWIN BRUNDAGE

Effective teaching of adolescents, this author maintains, depends upon making meaningful activities available in an atmosphere that assists discovery of and provision for individual differences.

IN THE light of all the new things we have learned about adolescents, it would be difficult to look upon a classroom of youngsters and not to see them as separate, unique individuals. Teachers today must consider each person as requiring certain subtle or, in some instances, drastic variations in the curriculum offered. Recognizing these individual differences is one thing, however, while actually meeting the differences is quite another.

What can we do to complete this

step more adequately? How can we actually offer students a meaningful curriculum which does something about individuals?

Within most classrooms we find a few students who are unhappy in their personal associations. Kay, for example, presented the teacher with such a problem. She was not accepted socially. In one instance, as the class spontaneously divided into small groups, the teacher made rather careful observations regarding Kay.

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